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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,501	01/03/2002	Robert C. Sundahl	5038-151	5497

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EXAMINER	
NGUYEN, KEVIN M	

ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/038,501	SUNDAHL ET AL.	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is made in response to applicant's amendment filed on 03/14/2004. Claims 25-30 are cancelled, claims 1, 5, 8 are amended, claims 2-4, 6, 7, 9-24 are original, and claims 1-24 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cathey et al (US 6,255,769).

4. As to claim 1 (currently revised), Cathey et al teaches a display device comprising

A field emission display 100 (a panel, fig. 6) having a faceplate 110 (a viewing side, fig. 6), and a cross-section view of Fig. 6 expressly shows a portion in the back of rows and columns of emitter set 158 which defines a now-viewing side as claimed.

Fig. 8 discloses a baseplate 152 including a peripheral region, and a central region bounding by a mirconeedle assembly 190.

Accordingly, Cathey et al teaches all of subject matter claimed except for an integral panel having a viewing side and non-viewing side.

However, Cathey et al further teaches, as described above, the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the faceplate bonding the baseplate because this would provide a very fast, cost efficient process for forming raised features on the bonding locations as taught by Cathey et al (col. 6, lines 26-28).

The mere fact that making integral does not preclude its consisting of various element in making integral of old elements was not to solve an existent problem such inquiry is whether bringing them making integral was obvious. Absent a showing of criticality it would have been within the level of skill in the art and obvious to one having ordinary skill to engineering design making integral of a well-known element is normally not directed toward patentable subject matter as desired as was judicially recognized. See *In re Larson, 144 USPQ 347 (CCPA 1965).*

5. As to claims 2, 3, 4, Cathey teaches the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) which are defined a printed circuit board and an integrated circuit as claimed.

6. As to claims 6, 7, 8, Cathey teaches holes 314 (sockets, fig. 10) coupling to the raise features (the pattern of contacts, fig. 10) and structured to receive a component in the central zone (see fig. 10). A cross-section view of Fig. 6 expressly shows a portion in the back of rows and columns of emitter set 158 which define a now-viewing side as claimed.

7. As to claim 5, Cathey reviews "the faceplate 60 also has spacers 63a and 63b on opposite sides of the anode 64 and the cathodoluminescent film 66. A number of leads 80 (only one shown on each side) coupled to the drive circuitry (not shown) extend to the spacers 63a and 63b, and each lead 80 has a connector pad 82 and a raised feature 84 positioned on one of the spacers 63a or 63b (col. 2, lines 22-28).

8. As to claim 9, Cathey reviews a dielectric layer 40 (prior art, fig. 1). Cathey further teaches the faceplate 110 (a display contact, fig. 6), the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) "corresponding to an electrically conductive circuit layer including the pattern of contacts."

9. As to claims 10-13, Cathey teaches "each baseplate 150 has emitters 156, emitter sets 158, and bond pads 154 as discussed above with respect to FIG. 5. Before the baseplates 150 are separated from one another by cutting the wafer 151, a large screen 185 having a number of applicator holes 184 is used to screen print the thick film conductive material onto the bond pads 154 substantially simultaneously. In this

embodiment of the invention, the applicator holes 184 are configured on the large screen 185 to correspond to the pattern of bond pads 154 across the entire surface of the wafer 151" (col. 6, lines 8-17).

10. As to claim 14 (original), Cathey et al reviews a display device comprising

A field emission display 10 (a panel, fig. 3) includes an anode 64 and cathodoluminescent film 66 (a plurality of display cell, fig. 3) on a faceplate 60 (a first side of panel, fig. 3);

An emitter substrate 30 (fig. 3) corresponds to a second side of the panel.

Fig. 3 discloses the emitter substrate 30 (fig. 3) including a peripheral region, and a central region bounding by a mirconeedle assembly 190.

Fig. 3 is an exploded to the components described above in figs 1 and 2, the baseplate 20 also has a plurality of bond pads 36 in or on the emitter substrate 30 such that each bond pad 36 is coupled to an end of a column interconnect 37 to provide contact points for the drive circuitry of a particular column of emitter sets 33 (col. 2, lines 11-18).

As to claim 15, Cathey et al reviews "Referring to FIG. 2, for example, a row signal along row R2 of the extraction grid 50 and a column signal along column C1 of the emitter substrate 30 activates the emitter set 33 at the intersection of row R2 and column C1" (col. 1, lines 62-65).

11. As to claim 16, Cathey et al reviews the driver circuitry (not shown, col. 1, lines 58).

12. As to claim 17, Cathey et al reviews "the raised features 84 are formed in a pattern corresponding to the pattern of bond pads 36 in the baseplate 20. The leads 80 and connector pads 82 are typically aluminum traces having a thickness of 12-20 μm, and the raised features 84 are typically 20-50 μm points formed by individually pinching the aluminum of the connector pads 82" (col. 2, lines 28-33).

13. As to claim 18 (original), Cathey et al reviews a display device comprising

Field emission displays ("FEDs") are flat panel displays for use in computers, television sets, instrument displays, and camcorder viewfinders defined a display interface coupling to an image generator (col. 1, lines 21-23).

A field emission display 10 (a panel, fig. 3) includes a faceplate 60 (fig. 3) corresponding to a first side of panel, and an emitter substrate 30 (fig. 3) corresponds to a second side of the panel.

Referring to FIG. 2, for example, a row signal along row R2 of the extraction grid 50 and a column signal along column C1 of the emitter substrate 30 activates the emitter set 33 at the intersection of row R2 and column C1" (col. 1, lines 62-65). Rows and columns defined the matrix of interconnects structure.

14. As to claims 19, 20, Cathey teaches a plurality of components (222, 312, 314, fig. 10) is connected to the panel with the periphery (see fig. 10).

15. As to claims 21, 22, 23, Cathey teaches the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to

corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) which are defined a printed circuit board and an integrated circuit as claimed.

16. As to claim 24, Cathey et al reviews the driver circuitry (not shown, a video driver, col. 1, lines 58) interposed between the display interface and the matrix of interconnects (see fig. 3).

Response to Arguments

17. Applicant's arguments filed 03/14/2005 have been fully considered but they are not persuasive.

18. In response to applicant's argument of claim 1 recites "an integral panel having a viewing side and non-viewing side." This argument is not persuasive because Cathey et al teaches a cross-section view of Fig. 6 expressly shows a portion in the back of rows and columns of emitter set 158. Therefore, a portion in the back of rows and columns of emitter set 158 (fig. 6) of Cathey teaching that defines a now-viewing side as claimed.

Cathey et al further teaches, as described above, the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32).

The mere fact that making integral does not preclude its consisting of various element in making integral of old elements was not to solve an existent problem such inquiry is whether bringing them making integral was obvious. Absent a showing of criticality it would have been within the level of skill in the art and obvious to one having

ordinary skill to engineering design making integral of a well-known element is normally not directed toward patentable subject matter as desired as was judicially recognized. See *In re Larson, 144 USPQ 347 (CCPA 1965).*

19. In response to applicant's argument of claim 14 recites "a plurality of display cells distributed on a first side of the panel,...a central zone and a peripheral zone formed on the second side." This argument is not persuasive because, as mentioned earlier, Cathey et al expressly reviews cathodoluminescent film 66 (a plurality of display cell, fig. 3) on a faceplate 60 (a first side of panel, fig. 3); An emitter substrate 30 (fig. 3) corresponds to a second side of the panel. Fig. 3 discloses the emitter substrate 30 (fig. 3) including a peripheral region, and a central region bounding by a mirconeedle assembly 190.

Applicant argues at page 8 recited "the Examiner points to substrate 30 in Fig. 3 of Cathey '769 as being the back side of the panel." This argument is not persuasive because the Examiner points that "An emitter substrate 30 (fig. 3) corresponds to a second side of the panel," not a backside of the panel.

20. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a backside of the panel) are not recited in the rejected claim 14. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

21. In response to applicant's argument of claim 18, Applicant submits an argument under the heading "reiterates its remarks", Applicant does not point out disagreements with the examiner's contentions. Applicant must also discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them.

For these reasons, the rejections based on Cathey et al have been maintained.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
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Art Unit 2674

KMN
June 6, 2005

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PRIMARY EXAMINER